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Client Characteristics related Critical Success Factors for Public-Private Partnerships in South Africa

Mohammad Nuseeb¹, Mohammad Koussa¹, Lindelani Matshidze², Nnedinma Umeokafor³
and Abimbola Windapo¹

¹Department of Construction Economics and Management,
University of Cape Town, South Africa

²School of Construction Economics and Management,
University of the Witwatersrand, South Africa

³Department of Civil Engineering, Surveying and Construction Management,
Kingston University, U.K.

(abimbola.windapo@uct.ac.za)

ABSTRACT

The implementation of the Public-Private Partnership (PPP) projects in South Africa has grown steadily since the late 1990s. However, these partnerships do not realise their potential with a decline in PPP transactions over the past decade. The drivers of success for PPP projects have become a subject of investigation to understand the downward trend. This study evaluates the different critical success factors pertinent to client characteristics that influence PPP projects in South Africa. The study followed a qualitative research inquiry that employs a grounded theory (G.T.) approach involving semi-structured interviews with nine professionals involved in PPP projects selected using a snowball sampling technique. Interviews were conducted on video conferencing and through phone calls. Seven responses were considered relevant to the research, and two were considered irrelevant and were disregarded. An in-depth analysis of the data gathered was conducted through a selective coding process using NVivo. The analysis revealed the research's emergent themes: client experience and in-house technical capabilities; client risk attitude; client willingness to be involved and trust in the private sector, available financial markets, and political support and stability. By applying the framework established, the chances of success and decline in the use of PPP projects can be considerably improved in South Africa through greater engagement between the public and private sectors in infrastructure investment and delivery. The study's main limitation is the smallness of the sample size and the use of the snowball sampling technique in which the initial respondents are likely to refer to other respondents who share similar points of view and beliefs. To counter this limitation, the researchers ensured that the convenient sample of initial subjects comprised professionals from different backgrounds.

KEYWORDS: Client characteristics, Client experience, Critical success factors, Grounded theory approach, Public-private partnerships, Technical capabilities.

INTRODUCTION

The increase in the world's population is adequately covered in literature with sources such as United Nations (2019) expecting to increase to 9.7 billion by 2030. While this growth increases the working-age population providing economic growth opportunities (ibid), it results in urban

or cities migration, health, safety and environmental issues and increased infrastructure needs and demands. Consequently, persistent demand from the public to provide high-quality public services has pushed governments worldwide to explore alternative ways to finance infrastructure developments (Cheung *et al.*, 2012). This has resulted in a steady increase in the implementation of Public-Private Partnerships (PPPs) worldwide, with 135 countries having had at least one PPP project during the past five years (World Bank, 2018). PPPs belong to the New Public Management (N.P.M.) concept, according to which the public sector could optimise its efficiency gains in terms of achieving the most desired output for the minor input by implementing competitive market strategies and market-based incentives to involve the private sector in the delivery of public responsibilities (Maskin & Tirole, 2008). This trend is also prevalent in South Africa, which features a portfolio of 34 PPP projects completed over the past twenty-five years (National Treasury, 2019). With South Africa's burgeoning and continuously urbanising populace, achieving and optimising Value for Money (VfM) on public infrastructure projects has become essential (Kelly, 2011). Nevertheless, despite South Africa's extensive experience in PPP projects and its comprehensive regulatory framework, these partnerships are yet to fully benefit South Africa (Fombad, 2019).

Due to the growth in the number of PPPs worldwide, the drivers of success for these projects have become a subject for investigation (Muhammad & Johar, 2019). According to Al-Saadi and Abdou (2016), CSFs are considered vital enablers of the successful implantation of any project. Also, Manley and Chen (2016) suggest that client characteristics significantly influence the chances of project success, as clients involved in collaborative procurement models such as PPPs are deeply involved in the project delivery process (Love *et al.*, 2010). It is essential to determine the characteristics of public sector clients that are vital for the successful delivery of PPP projects to realise enhanced VfM.

Despite the extensive literature on CSFs applicable to PPP projects, few studies (see Lahdenperä, 2012; Koops *et al.*, 2015) were conducted on the influence of client characteristics on the success of PPP projects. Furthermore, despite consensus regarding the correlation between client characteristics and project performance (Love *et al.*, 2010; Umeokafor, 2018), little empirical evidence has been gathered to back this argument (Manley & Chen, 2016). For example, Umeokafor (2018) provides little evidence of the impact of client characteristics on project performance indicators (cost, health and safety and productivity) but then focused on health and safety indicators. While this study has done well in examining the subject from the Nigeria perspective, it has not focused on any specific procurement route as the current study does. Also, it adopts the quantitative approach to research hence the need for qualitative approach-based research like the current one. The dearth of qualitative approach-based studies in construction management research can offer an in-depth understanding of social phenomena to enable developing and emerging countries to adequately address social issues as demonstrated in the literature (Al Sehami *et al.* 2013; Umeokafor & Windapo 2018).

The further rationale of the current research stems from the decline in the number of PPPs being implemented in South Africa in recent years. PPPs have been on the decline in South Africa due to their rejection by organised labour and the fiscal health of the economy (Mfunwa, Taylor, & Kreiter, 2016). Based on the background established so far, using the grounded theory approach, this study intends to bridge the knowledge gap by evaluating the different critical success factors (CSFs) related to client characteristics that influence Public-Private Partnerships (PPP) projects in the South African context.

The contribution brought by this research is the development of a G.T. framework for predicting the chances of project success based on the client characteristics identified for public sector clients in the contextual and theoretical framework established. Through the application of the framework, the chances of PPP projects being successful can be considerably improved. This may eventually reverse the recent decline in PPP projects in South Africa and increase the engagement between the public and private sectors in infrastructure investment and delivery.

LITERATURE REVIEW

General Consideration

Governments have adopted Public-Private Partnerships (PPPs) as an alternative delivery strategy for remedying the lack of dynamism in traditional public service delivery (World Bank, 2018). PPP improves dynamism through optimal risk-sharing and financing goods and services of which are traditionally the state responsibility. The use of CSFs has greatly aided the implementation and delivery of PPPs worldwide (Abdul-Aziz & Kassim, 2011). According to Muhammad and Johar (2019), CSFs are the essential drivers required to complete PPP projects successfully.

Public-Private Partnerships in South Africa

Van Herpen (2002) defined PPPs as a collaboration between a private and public sector to develop an infrastructure project, agreeing on risks allocation and sharing, while parties retain their original identities. The South African National Treasury (2019) defines a PPP as a contract between a public sector institution and a private party. The latter is responsible for undertaking a function previously carried out by the public sector while assuming a significant portion of the project risk. According to Khatleli (2020), if developing economies adopt PPPs, PPPs will improve fiscal space, which will assist in infrastructure and social investment. There are further benefits through technological innovation transfer, which will improve the quality of services to the benefit of the general populace (Khatleli, 2020).

In South Africa, PPPs at the provincial and national level are regulated under Treasury Regulation 16, issued under the Public Finance Management Act (P.F.M.A.) of 1999, while PPPs at the municipal level are governed by the Municipal PPP Regulations issued in terms of the Finance Management Act of 2003 (Burger, 2006). The P.F.M.A. led to the establishment of the South African PPP Unit in the mid-2000 whose primary function is to ensure that all PPP agreements comply with the legal conditions of affordability, VfM, and adequate risk transfer, also known as the three PPP tests (National Treasury PPP Unit, 2004).

To date, 34 PPP projects have been completed since this type of partnership was first introduced in South Africa in 1998 (National Treasury, 2019). Of the 34 successful PPP projects, one is an equity partnership, another is a facilities management project, two are Design Build Operate and Transfer (D.B.O.T.s), four are Design Finance and Operate (D.F.O.s), and 26 are Design, Finance, Build, Operate and Transfer (D.F.B.O.T.) projects (National Treasury, 2019). Despite the success of PPP projects in South Africa, several challenges have arisen over the years, such as the declining private sector investment in PPP projects and lack of government initiative and trust in the private sector, which has led to project delays and cancellations in some cases (Bwanali & Rwelamila, 2017; Oxford, 2019). South African Communist Party (S.A.C.P.) and

Congress of South African Trade Unions (C.O.S.A.T.U.) has always projected PPP as disguised privatisation, which draws opposition from the governing party's organised labour constituency (McWalter & Ritchken, 2018).

Critical Success Factors

For the past four decades, there has been a decline in the worldwide application of PPPs. To explain this trend, researchers have come up with the concept of CSFs to identify critical factors in a PPP project that will influence its success rate (Al-Saadi & Abdou, 2016). CSFs have been globally applied to guide organisations in achieving the goals and objectives of stakeholders (Janse, 2019). Zhang (2005) stated that identifying these factors is considered a vital first step towards developing an efficient and feasible PPP framework.

The competence of the Government. Prior literature revealed extensive research conducted on CSFs for construction projects in general and PPP projects (Chan *et al.*, 2004). Zhang (2005) identified five main CSFs, namely: appropriate risk allocation, favourable investment environment, a consortium with strong technical strength, good financial package and economic viability. Similarly, Kwak *et al.* (2009) compiled a list of four significant CSFs that would lead to a successful implementation of PPP projects in general, including a sound financial package, selecting an appropriate concessionaire, and a fair risk allocation. More recently, Dithebe *et al.* (2019) conducted a study on CSFs in South Africa and concluded that project viability, public cooperation and policy and legislation enhancement were the top three grouped CSFs. Besides, Li *et al.* (2005) highlighted that the development of CSFs in PPPs is country-specific and project-specific. There is an argument that the ability for PPP to allow a renegotiation process as unfavourable as it exposes the public sector to hold-up risks (Bertelli, Mele & Whitford, 2020).

Client Characteristics

Project success is a widely discussed subject in the literature (Love *et al.*, 2010). Manley and Chen (2016) claim that client characteristics significantly influence the outcome of projects. Typical client classification in the construction industry is by a distinction between private and public sector clients (Tuuli, 2018). A survey carried out by Newman *et al.* (1981) yielded a list of 18 clients based on their business functions, such as industrial developers, education, hospitals, and public authorities, and these categories were broken down into more specific sub-categories. Furthermore, client types can be classified regarding their level of experience in executing construction projects (Tuuli, 2018). Nevertheless, Masterman and Gameson (1994) argue that experience cannot be judged based solely on previous building experience; the client should possess experience in the type of building in question to be qualified as an experienced client. Table 1 summarises the client characteristics most commonly used by authors and relevant to the type of client involved in PPP projects.

It can be seen from Table 1 that Client Characteristics are classified according to Owner's in-house technical capability, Client approach to risk (risk allocation), Owner's willingness to be involved in the project, Owner's trust of other parties, Owner's experience with similar projects, and the ability of the client to clearly state the end user's requirements. These client characteristics are used in the study.

Table 1 - Client Characteristics

CLIENT CHARACTERISTICS	INITIAL	EXTRACTION
Owner's in-house technical capability	The professionals that make up the client's organisation	(Ling and Liu, 2004; Luu <i>et al.</i> , 2005)
Client approach to risk (risk allocation)	The client's attitude to risk; risk-averse or risk-tolerant	(Kometa <i>et al.</i> , 1994; Liu <i>et al.</i> , 2015)
Owner's willingness to be involved	The client's contribution to project success.	(Kerzner, 1995; Walker, 1995; Liu <i>et al.</i> , 2015)
Owner's trust of other parties	The trust showed by the public sector client in the private party	(Kerzner, 1995; Chen <i>et al.</i> , 2011)
Owner's experience with similar projects	The client's experience has in managing similar PPP projects in the past	(Kometa <i>et al.</i> , 1994; Manley and Chen, 2016)
Client's ability to clearly state the end user's requirements	The client's aptitude to formulate a clear brief and define the scope of works	(Chan <i>et al.</i> , 2001; Al Khalil, 2002)

RESEARCH METHOD

A qualitative research approach was chosen for this study because the research problem delves into the perception of PPP project stakeholders regarding the characteristics of clients which they deem to affect the outcome of such projects. Qualitative methods focus on ordinary events in a natural setting to ensure the captured information portrays the study participants' actual views. Thus making qualitative data inherent with richness and holism with the potential to reveal the complexity, which could otherwise be lost among statistics under the quantitative approach (Amaratunga *et al.*, 2002).

Grounded Theory Approach to Data Collection

This study adopted a Grounded Theory G.T. approach to data collection, using semi-structured interviews. Charmaz (2006) argues that the flexible nature of semi-structured interviews directly influences the nature of the qualitative interviewing process and makes it suitable for the G.T. method. The interview process consisted of open-ended questions as an 'aide-memoir' to guide the line of inquiry, whereby the researchers have identified the topics around which they want to build the interview conversation and where the discussion is participant-driven. This form of enquiry stimulates the conversation and enables the interviewees' perceptions to emerge (Thornberg & Charmaz, 2013). Moreover, the G.T. Approach requires the researcher to conduct data analysis in parallel with the data collection process so that the insight acquired through data analysis can be used to direct the focus of the interview questions on the new categories identified (Thornberg & Charmaz, 2013). According to Charmaz (2006), the process of theoretical sampling distinguishes the G.T. approach from traditional analysis methods by its analytical approach to qualitative inquiry. To this end, the data collection process was inherent with the transcription of interviews for coding purposes, whereby the researchers' new thoughts and analytic, conceptual or theoretical notes are called memos (Thornberg & Charmaz,

2013). The memos are then used in subsequent interviews to investigate their codes and categories further.

Sampling Strategy and Interviewee Profile

The snowball sampling technique is generally used when the population of interest is difficult to reach (Heckathorn and Cameron, 2017). While ideally, the research population would have been restricted to PPP projects completed within the past decade, the number of PPP projects completed within that period make up less than 15% of the total number of PPP projects completed in South Africa. For this reason, PPP projects completed since the year 2000 are considered as a unit of analysis in this study. Consequently, the study population comprises all professionals involved in the 30 PPP projects implemented in South Africa since 2000. Since no database of organisations involved in PPP projects in South Africa is available, the researchers employed snowball sampling to contact potential interviewees through the information provided by other informants. Etikan *et al.* (2015) describe the snowball sampling technique as starting with a convenient sample as initial subjects who serve the purpose of ‘seeds’ and through which the subsequent wave of subjects is recruited. The informants should meet the criterion of having been directly involved in a PPP project in South Africa. Figure 1 shows the Interview Snowball Map.

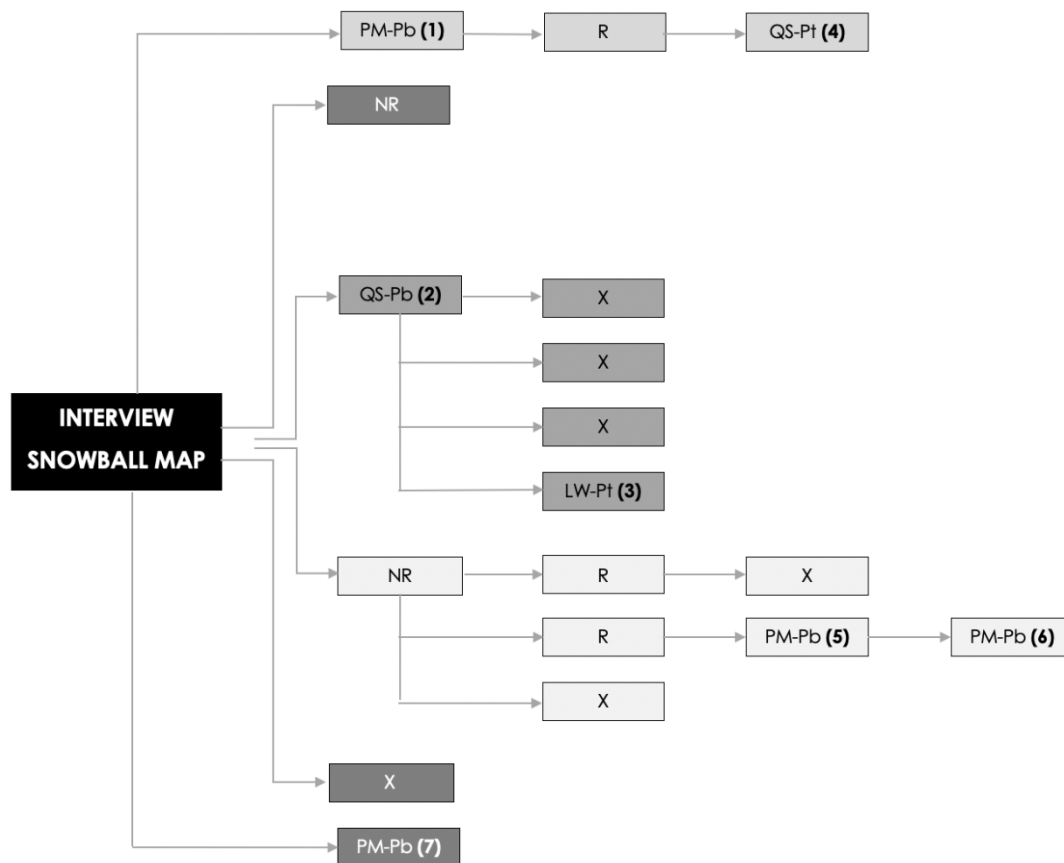


Figure 1. The Interview Snowball Map.

Figure 1 shows the professionals contacted or interviewed by the researchers. For ethical reasons, anonymity codes were used to represent the interview participants to keep their personal information confidential. In addition, each individual was assigned a number representing the order in which they were interviewed. In total, 18 professionals were contacted through the snowball sampling technique, and Table 2 outlines the stakeholder group, sector and anonymity codes for the research participants.

Table 2 – Distribution of participants by Stakeholder group, sector and anonymity codes

STAKEHOLDER GROUP	SECTOR	ANONYMITY CODE
Quantity Surveyor	Public	QS-Pb
Quantity Surveyor	Private	QS-Pt
Project Manager	Public	PM-Pb
Lawyer	Private	LW-Pt
No Response	-	X
Interviewed but not relevant	-	NR
Recommendations	-	R

Nine positive responses were obtained from the 18 persons contacted, and nine interviews were conducted via the 'ZOOM' platform and telephonically. The interviews lasted an average of 25 minutes. However, two of the nine interviews conducted were discarded as they were deemed irrelevant by the researchers. Nevertheless, the two participants whose interviews were disregarded provided the contact information of other professionals with whom interviews were conducted. Interviews were used to conduct the study to enable the researcher to probe and ask follow-up questions. Figure 1 and Table 2 show that five interviewees emanated from the public sector while two worked in the private sector. The interviewees comprised of professionals with Quantity Surveying (two), Project Management (four) and Legal (one) backgrounds, and who have a cumulative experience of over 75 years working on PPP projects.

Theoretical saturation in Grounded Theory (G.T.) is the point at which the constant analysis and comparison of the interview transcripts reveal no new properties or information emerge from the analysis of the interviews (Glaser *et al.*, 1968; Corbin and Strauss, 2014). In this study, the snowball sampling process was ceased once the comparison of the emerging codes from the analysis of interview transcripts revealed no new information. At that point, theoretical saturation was assumed to have been reached.

Method of data collection

A semi-structured interview process was adopted for the study. This research instrument was used based on the suitability of open-ended interviewing for the Grounded Theory method, which directly influences the nature of the qualitative interviewing process. The process involves the interviewer beginning the interview with questions on the interviewee's background to situate the perspective within the social context under consideration (Charmaz, 2006). The approach adopted consisted of open-ended questions, which were used by what

Charmaz (2006) term as an 'aide-memoire' to guide the line of inquiry. The 'aide-memoire' comprised of open-ended questions of an un-judgemental nature, as prescribed by Charmaz (2006), would help stimulate the conversation and enable the interviewees' perceptions to emerge.

The interview protocol was structured into five sections, with each section dealing with a particular portion of the research. The interview begins with Section A, which concerns the interviewee's background in a bid to situate the latter's point of view within the PPP framework and ascertain by their experience in PPP projects the credibility of their comments. Under Section A, the interviewee is also requested to choose the most recent PPP project they were involved in to be used as a reference point for answering the questions in the subsequent sections. Sections B and C then questions the interviewee about the research topics of client characteristics and CSFs and their influence on the outcome of PPP projects. Section D concerns questions about the level of performance of the PPP project that the interviewee chose to articulate. Finally, Section D asks the interviewee about the future of PPP projects in South Africa. As part of the snowball sampling strategy, the interviewee was also asked to provide the contact details of other professionals involved in PPP projects before ending the interview.

Method of data analysis

The data and information collected from the semi-structured interviews were analysed thematically using the six phases of Grounded Theory Analysis outlined by Charmaz (2006). The analysis of the transcripts was performed using the NVivo software. The 'Sonix' software was used to generate a written transcript of the interviews automatically. The researchers then edited the auto-generated transcripts to correct sentences or words that the computer software failed to detect or translated incorrectly. The coding of the interview transcripts was done on the NVivo software. The researchers dissect the data gathered during the coding process and define data portions based on its content.

Reliability and Validity

It is of utmost importance to review the reliability and validity of the research methodology and approach employed (Leedy and Ormrod, 2005). The research's consistency was achieved by using a similar interview modus operandi for all the interviews conducted. Regarding the coding process, consistency was achieved by continuously analysing the interview transcripts and the constant comparison and re-evaluation of the emergent codes. Furthermore, the empirical data produced and the conclusions are drawn result from an in-depth analysis of the complexities inherent with the role of the clients in the procurement of PPP projects.

In addition, the data collection instrument was pre-tested to ensure appropriate data can be extracted for the study by administering it to a PPP expert before using it in the interviews. To this end, the findings and emergent empirical evidence represent an underlying feature of the G.T. Analysis and may therefore be regarded as being internally valid. Besides, the emergent themes and the subsequent establishment of the core category align with the empirical context. As far as the transferability of the research findings to other contexts is concerned, the G.T. framework established is sufficiently non-context specific (not based on any particular type of PPP project), allowing for it to be tested in the context of different PPP models in South Africa.

Ethical Considerations

The researchers obtained approval from the Faculty of Engineering and the Built Environment of the University of Cape Town Ethics in Research Committee to interview human subjects. Due to the nature of the interviews, the anonymity of research participants could not be maintained, as the position and institution of research participants had to be revealed to the investigators. Consent of the interviewees was obtained before the interview by requesting that they sign an informed consent form. To ensure the information remained confidential, the researchers have ensured that the identity of the participants was not disclosed to anyone outside the research team, and the names of the interviewees were anonymised using a reference number.

Research Limitations

Grounded theorists consider the influence of the interviewer interviewee bias to be inevitable (Mruck & Mey, 2007). To effectively deal with the problem of bias, Mills *et al.* (2006) recommend the use of 'conscious raising questions' and the implementation of practical strategies. Additionally, as noted above, person and analytical triangulation (using information obtained on a PPP project identified by the interviewee in analysing the interview responses) was conducted to improve the trustworthiness of the research. Also, the data collection instrument was pre-tested before using it in the interviews. Furthermore, the researchers were transparent from the onset with the interviewees regarding their understanding of the research topic and the issues arising from the interview. Moreover, one of the main limitations of the snowball sampling approach is that the initial respondents are likely to refer to other respondents who share a similar point of view and beliefs as themselves (Heckathorn and Cameron, 2017). To counter this issue, the researchers ensured that the convenient sample of initial subjects who serve the purpose of 'seeds' comprised professionals from different backgrounds and were involved from both the public and private sector side of PPPs.

FINDINGS AND DISCUSSION

This section presents the findings of the study obtained from interviews conducted using the grounded theory approach. It begins with a presentation of the data collected from the interviews. Then discusses the grounded theory analysis of the data gathered. The grounded theory analysis revealed several relationships between the codes established, which led to several emergent themes. The section finally ends with a discussion of the findings whereby the emergent themes arising from open and focussed data coding are linked to existing literature.

Findings from the Initial Coding

The initial coding process consists of analysing all the opinions and statements expressed by the interviewees, which are then grouped and classified under relevant codes. Regarding the client organisational structure, the respondents highlighted the common theme of communication as the main issue. PM-Pb (1) indicated that the current PPP framework in South Africa is too cumbersome, resulting in delays within communication lines, and this phenomenon can be considered the norm in government projects. According to PM-Pb (1):

“the client's organisational structure ranks among the most significant factors that have an impact on the outcome of the projects.”

Pm-Pb (7) reiterates this view by stating that:

“delays in communication may result from complex client organisational structures with a hierarchical top-down chain of command.”

Regarding the client representative, a common point was raised stating that the team representing the client should consist of professionals from diverse backgrounds with both an engineering (construction), financial and legal background. According to PM-Pb (1), who had an industrial engineering background with public administration experience:

“having a client representative with only a construction background is not the answer to the problems faced by PPPs. The competencies required for a PPP project manager go beyond an understanding of construction issues.”

PM-Pb (5), a client representative as well agrees with PM-PB (1), stating that:

“a client representative with a diverse background does actually help towards a better packaging of the PPP project. A client representative with a construction background would help the project delivery process.”

Also, when asked about the client's attitude to risk allocation, all interviewees concur that the public sector is generally more risk-averse. QS-Pb (2) argues that clients prefer having a project with no risk at all. This statement is backed by PM-Pb (6), a client representative stated that the public sector client adopts a very fine line for compromise as far as risk is concerned and that if all the risk are not passed onto the private party, the PPP project is unlikely to pass the three tests for treasury approval, which are the tests for affordability, appropriate transfer of risk and value for money. With regards to the client's experience, the respondents have a difference in opinion. QS-Pb (2) argues that client experience in PPP projects does not matter as the transaction advisory team, who possess all the necessary expertise, usually takes care of the project, while other respondents stated that the more experience a client has, the better the packaging and procuring of works.

In terms of trust between the public and private sectors, the research participants agree that trust is closely linked to the risk-sharing aspects of the PPP project. For instance, QS-Pb (2) contends that showing a willingness to take on risks will create greater trust between the parties. Besides, when questioned about the availability of the financial market at the time of the PPP projects they were involved in, all interviewees concur that during the 2000s, there was much enthusiasm from the private sector in terms of funding and participation in PPP projects. However, PM-Pb (5) indicated that there had been some anti-market sentiments for the past decade in South Africa, causing a decline in the number of PPP projects being implemented. Regarding the political stability in South Africa, most respondents point out that change in leadership and policies and the never-ending corruption in the system are the leading causes of political instability. The respondents also indicated that the existing PPP framework is outdated and needs to be adapted and improved.

Selective Coding and Emergent Themes

A selective coding process was undertaken after the initial coding process. The emergent themes from the selective coding process were the client's experience (in-house technical capabilities), willingness to be involved and trust, risk attitude, available financial market, and political stability.

Theme 1: Client experience and in-house technical capabilities

Concerning emergent Theme 1: client experience, the research participants, stressed that it is essential for PPP projects to be packaged in a way that makes them viable. While the transaction advisory team and the PPP unit play an important role in procuring the infrastructure, the client will eventually be in charge of the project. According to LW-Pt (3),

"... what happens is that the procuring entity, let's say it's the Department of Water or whatever it is, building water products, they then would hire transaction advisers to help them. But the transaction advisers go away once the project is implemented and constructed and the department then needs to operate it itself or oversee the operations, if it doesn't understand or buy into the process, it's not going to be successful."

Also, PM-Pb (5) also notes that *"Even though the transaction advisory team provides valuable expertise required to package PPP projects, the client experience is still important. It is advisable for the client to have a good understanding of PPP if not experienced..."*

In addition, it was also found that if the client has experience in working on similar types of projects, this increases the probability of project success as noted by PM-Pb (7):

"...so if the client had past experience with a certain type of project, for example with the Gautrain, so umm if the government has had previous experience with transportation projects of a similar size, that would help manage it much better yes."

Theme 2: Client risk attitude

The data revealed that most research participants consider the public sector client to be risk-averse, which tends to have a negative impact on the project. The interviewees view that the client's attitude to risk should be based on the specifics of the PPP project in question to ensure the risks are allocated to the party better positioned to deal with them. PM-Pb (1), QS-Pb (2) and PM-Pb (6) are quoted as follows:

PM-Pb (1): *"I would say risk averse in the sense that the approach to the risk is much more to shift the risks to the private sector."*

QS-Pb (2): *"If it, if it's possible, clients prefer with project with no risk at all."*

PM-Pb (6): *"Government by its nature is always risk averse. It was a fine line for compromise in terms of passing the risk because if you don't pass all the risk over to the private party, it is not going to pass the three tests."*

Theme 3: Client's willingness to be involved in the PPP process and trust in the private sector

All interviewees reported that the most important client characteristic is the willingness of the client to get involved in the PPP process and to know what the PPP process entails. The interviewees further state that the client's trust in the private sector also plays an important role in ensuring the public sector contributes to a successful project.

PM-Pb (5): *“Trust and willingness to get to know what a PPP entails and transparency of commitment in the client's decision-making structures are also factors which bear an impact on the outcome of PPP projects.”*

PM-Pb (6): *“Yes I think trust between the private and public sector is very important because since many PPP did not reach conclusion, this does raise some questions in the private sector and maybe if there are more PPPs and they are more successful, I think the trust factor would then increase.”*

PM-Pb (7): *“...yes, trust plays an important role, especially in the prevailing economic climate as this gives incentives to the private sector to get greater involvement in PPPs... by taking on more risk the public sector can inspire greater confidence in the private sector and this potentially could improve the collaboration between a parties...”*

The consensus among the interviewees is that the greater the trust that the public sector client shows in the private sector, the greater the chances of project success. Furthermore, it can be said that showing trust represents a substantial contribution of the public sector client to the project. Furthermore, the interviewees report that a lack of trust and willingness of the public sector to have a more hands-on approach in the projects is among the reasons behind the recent decline in the number of PPP projects.

Theme 4: Available financial market

Furthermore, regarding emergent Theme 4: available financial market, the interviewees concur that a stable economic condition is central to the success of PPPs in that there will be enthusiasm for a private client in terms of funding and undertaking PPPs. There is a consensus indicating that during the 2000s, the most significant number of PPPs was implemented in South Africa as a result of the enthusiasm displayed by the private sector with regards to funding and participation in PPP projects. QS-Pb (1) and QS-Pb (2) are quoted as follows:

QS-Pb (1): *“...it was a stable economy then and availability and willingness of the private sector to finance projects both. They had a huge appetite.”*

QS-Pb (2): *“...I think there have been, a good appetite from the private sector to try to participate in projects.”*

In contrast, in the past decade (2010 to date), there has been a decline in the number of successful PPPs due to anti-market sentiments. Also, it was noted that procuring projects through PPP can be quite costly in terms of affordability and exceedingly long durations.

LW-Pt (3): *“...the general PPP market, certainly it's very down because it's perceived to be very expensive and it's perceived to take enormous amounts of time.”*

QS-Pt (4): “...they haven't been spending from the government, and obviously it has been a huge factor in the decline of the construction sector...”

PM-Pb (6): “...it was terminated because of affordability. You must remember that, this was around the time when the treasury was undergoing some Financial constraints...but I think also the term of PPP is so long...”

Theme 5: Political stability

This node came to light as a result of the respondents' views on political support and stability. This theme is paramount in the proper and successful implementation of PPPs in South Africa and can be associated with the public sector's commitment. It can be inferred that political stability indeed helps create the optimum conditions for PPPs to be successful. As found in the study, clients want the risk allocated to the party in the most appropriate position to bear it. Regarding the commitment of the public sector, respondent QS-Pt (4), PM-Pb (5) and PM-Pb (6) noted as follows:

QS-Pt (4): “...they were purely of funding in this project, which actually helped”

PM-Pb (5): “Internal project team members to oversee project and a financial contribution to reduce unitary payment.”

PM-Pb (6): “Government contribution would be obviously the personnel, in order to manage the P.P.P...also, a capital contribution... made to the project.”

In addition, it is noted that change in government leadership and policies at both the local and national level significantly affects the outcome of PPP projects. As noted by QS-Pb (2), PM-Pb (5) and QS-Pb (2):

QS-Pb (2): “...there will always be policy and politics... in 2009, I think South Africa implemented a lot of projects...where most of these projects were implemented.”

PM-Pb (5): “...the government changed, the change in power has affected the way the funds are coming in.”

QS-Pb (2): “...there has been a change in policy in both the fiscal policy and economic policies... desire to involve private sector in what has traditionally been regarded as the public services has shifted.”

Moreover, political stability is of utmost importance due to the deep-rooted corruption in the South African government system, whereby PPP projects are not implemented for public service but rather for the personal gain of the people in power. As noted by LW-Pt (3): “...There are two problems, one is corruption, and the second is a policy reason...”

Core Category and implications

Following the emergence of focus codes, the characteristics identified are interlinked and relate to each other. For example, client's willingness to be involved and trust are related to their risk attitude, and their experience may have implications for both. As such, the study identifies client

characteristics as the main core category as illustrated in Figure 2, to which the five emergent themes, namely the client experience, the client's risk attitude, the client's willingness to be involved in the PPP process and trust in the private sector, the available financial market and the political stability as being interlinked to one another.

The core category of client characteristics results from the development of the grounded theory for predicting the chances of project success based on the five emergent themes. The implications of the study's findings include that while there are other CSFs for PPPs, for optimum client involvement and contribution to PPPs, there is the need for strategies that will address characteristics-based needs or requirements of the client. These are not limited to their experiences, attitude to risk, willingness to be involved in the PPP process and trust in the private sector, and the implications of political stability on their attitude towards risk, for example.

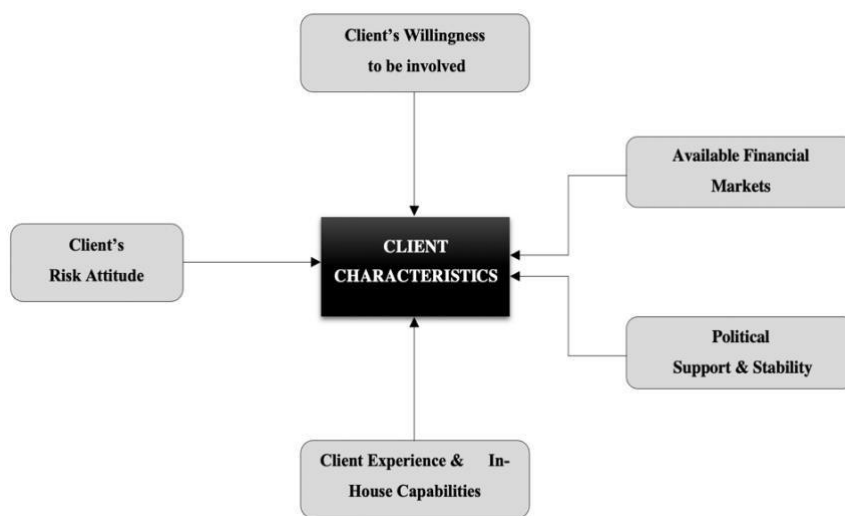


Figure 2: Core Category

DISCUSSION OF FINDINGS

The study evaluates the different critical success factors pertinent to client characteristics that influence PPP projects in South Africa. It emerged that client experience is essential for PPP projects to be packaged to make them viable. This finding is in conformance with Bresnen and Haslam (1991), who claim that client experience significantly influences the overall outcome of a project, as strategic decisions are generally driven internally by the client's organisation. The finding that the client's risk attitude to risk is based on the specifics of the PPP project in question in order to ensure the risks are allocated to the party better positioned to deal with them conforms with the findings of previous research by Kometa *et al.* (1995) and Liu *et al.* (2015) who view the client's attitude to risk as being among the main factors responsible for project success. The finding is also in line with previous research by Babatunde *et al.* (2012), who found that for PPPs in developing countries such as Nigeria to be successful, there needs to be appropriate risk allocation and risk sharing, a factor that ranks 4th out of 18 critical success factors examined. Also, in terms of emergent theme 3: client's willingness to be involved in the PPP process and trust in the private sector, the research participants' views are consistent with Lim and Ling (2002). They report that trust in the private sector leads to enhanced project performance as information is shared in full transparency and gamesmanship is absent.

Furthermore, it emerged that a stable economic condition is central to the success of PPPs. This finding aligns with the findings of previous research by Cheung *et al.* (2012) that indicated that a mature and effective financial market would act as an incentive for the private sector to undertake PPP projects. This is especially important given the risk attitude, which is covered elsewhere in this study. While a stable economic condition is a condition for success in PPPs, as seen in Qiao *et al.* (2001), Babatunde *et al.* (2012) also show that of the 18 critical success factors examined in their study, the availability of a suitable financial market is the highest-ranked. Moreover, the findings suggest that political stability and support are important factors for creating an ideal environment for PPP projects to be successfully implemented. This is in line with Wibowo and Alfen (2015), who mention that strong political stability contributes to the fairness, long-term sustainability and transparency of PPP projects, and that willingness and political stability are considered to be critical factors in ensuring the participation of the private sector in PPPs. It can be argued that political stability can result or have implications for political support for the PPPs, which is among the critical success factors for PPPs in Nigeria (Babatunde *et al.*, 2012).

CONCLUSION AND FURTHER RESEARCH

The main goal of this study was to identify the CSFs related to client characteristics that influence the outcome of PPP projects. The study offer insight into how the characteristics of clients are influenced by external contexts such as the political and economic contexts in PPPs. It was found that both the public and private sectors are increasingly reluctant to invest, hence the downward trend in the implementation of PPP projects in recent years due to the unhealthy financial market. Based on the research findings, the study concludes that inexperienced clients adversely affect the outcome of PPP projects due to their tendency to make rash decisions. Such clients generally fail to properly manage the project once they take over from the private party for the implementation stage.

Moreover, client organisations deficient in professionals from different backgrounds produce a sub-optimal packaging of the PPP project and poorly manage all aspects of the PPP process. Besides, the findings suggest that public sector clients adopt a fine line for compromise as far as the allocation of risk is concerned. The risk-averse nature of the public sector client generates an adversarial relationship between the parties, which negatively influences the project outcome. This also ties back to the trust between the parties; the adversarial climate acts as a barrier to collective learning and knowledge sharing, which would have otherwise boosted the chances of project success. Also, the Government's dearth of initiative and contribution to getting involved in the PPP process causes a decrease in the private sector's desire to be involved. Subsequently, the considerable appetite shown in the past by the private sector has decreased in vigour.

The main limitation of the snowball sampling approach used in the study is that the initial respondents are likely to refer to other respondents who share a similar point of view and beliefs, and the small sample size. In order to counter this issue, the researchers made sure that the convenient sample of initial subjects who serve the purpose of 'seeds' comprised of professionals from different backgrounds and who were involved from both the public and private side of PPPs. The study recommends that future studies further explore CSFs that are instrumental in South Africa by employing a case study method. Optimum results for such research can be achieved through the application of qualitative comparative analysis. Also,

further research may be conducted on a global scale to improve the generalisability of the findings. The findings have theoretical implications regarding the role of trust in the private sector and clients' willingness in the PPP process on project outcomes. These aspects are found to be of vital importance to ensure project success and warrant auxiliary exploration in future work.

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REFERENCES

- Abdul-Aziz, A.-R. and Kassim, P.J. (2011). Success and failure factors of housing public-private partnerships in Malaysia. *Habitat International*, 35(1), 150-157. <https://doi.org/10.1016/j.habitatint.2010.06.005>
- Al Khalil, M.I. (2002). Selecting the appropriate project delivery method using A.H.P. *International Journal of Project Management*, 20(6), 469-474. [https://doi.org/10.1016/S0263-7863\(01\)00032-1](https://doi.org/10.1016/S0263-7863(01)00032-1)
- Al-Saadi, R. and Abdou, A. (2016). Factors critical for the success of public-private partnerships in U.A.E. infrastructure projects: Experts' perception. *International Journal of Construction Management*, 16(3), 234-248. <https://doi.org/10.1080/15623599.2016.1146110>
- Babatunde, S., Opawole, A. and Akinsiku, O. (2012). Critical success factors in public- private partnership (PPP) on infrastructure delivery in Nigeria. *Journal of Facilities Management*, 10(3), 212-225. <https://doi.org/10.1108/14725961211246018>
- Bertelli, A., Mele, V. and Whitford, A. (2020). When new public management fails: Infrastructure public-private partnerships and political constraints in developing and transitional economies. *Governance*, 33(3), 477-493. <https://doi.org/10.1111/gove.12428>
- Burger, P. (2006). The dedicated PPP unit of the South African national treasury. *Policy, Finance & Management for Public-Private Partnerships*, 82-96.
- Bwanali, S. and Rwelamila, P. (2017). Public-private partnerships: A possible alternative for delivery of infrastructure projects in Africa. *International Journal of Construction Supply Chain Management*, 7(3), 93-109. <https://doi.org/10.14424/ijcscm703017-93-109>
- Chan, A.P., Ho, D.C. and Tam, C. (2001). Design and build project success factors: multivariate analysis. *Journal of Construction Engineering and Management*, 127(2), 93-100. [https://doi.org/10.1061/\(ASCE\)0733-9364\(2001\)127:2\(93\)](https://doi.org/10.1061/(ASCE)0733-9364(2001)127:2(93))
- Chan, A.P., Chan, D.W., Chiang, Y.H., Tang, B.-S., Chan, E.H. and Ho, K.S. (2004). Exploring critical success factors for partnering in construction projects. *Journal of Construction*

Engineering and Management, 130(2), 188-198. [https://doi.org/10.1061/\(ASCE\)0733-9364\(2004\)130:2\(188\)](https://doi.org/10.1061/(ASCE)0733-9364(2004)130:2(188))

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Thousand Oaks, California: SAGE Publications Ltd.

Chen, Y.Q., Liu, J.Y., and Lin, B. (2011) Project delivery system selection of construction projects in China. *Expert Systems with Applications*, 38(5), 5456-5462. <https://doi.org/10.1016/j.eswa.2010.10.008>

Cheung, E., Chan, A.P. and Kajewski, S. (2012). Factors contributing to successful public-private partnership projects. *Journal of Facilities Management*, 10(1), 44-58. <https://doi.org/10.1108/14725961211200397>

Corbin, J. and Strauss, A. (2014). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. In: 2nd Ed. Thousand Oaks, California: Sage Publications Ltd.

Dithebe, K., Aigbavboa Clinton, O., Thwala Wellington, D. and Oke Ayodeji, E. (2019). Factor analysis of critical success factors for water infrastructure projects delivered under public-private partnerships. *Journal of Financial Management of Property and Construction*, 24(3), 338-357. <https://doi.org/10.1108/JFMPC-06-2019-0049>

Etikan, I., Alkassim, R. and Abubakar, S. (2015). Comparison of snowball sampling and sequential sampling technique. *Biometrics International Journal*, 3(1:00055).

Fombad, M. (2019). Enhancing accountability in public-private partnerships in South Africa. *Southern African Business Review*, 18(3), 66-92.

Glaser, B.G., Strauss, A.L. and Strutzel, E. (1968). The discovery of grounded theory; strategies for qualitative research. *Nursing Research*, 17(4), 364. <https://doi.org/10.1097/00006199-196807000-00014>

Heckathorn, D.D. and Cameron, C.J. (2017). Network sampling: From snowball to respondent-driven sampling. *Annual Review of Sociology*, 43(1), 101-119. <https://doi.org/10.1146/annurev-soc-060116-053556>

Janse, B. (2019). Critical Success Factors [Online]. Available: <https://bit.ly/2ItmU2D> [Accessed 09 October, 2020].

Khatleli, N. (2020). Guidelines for implementing PPPs in SADC, South African Institute of International Affairs.

Kelly, J. (2011) *Cracking the V.F.M. Code: How to Identify & Deliver Genuine Value For Money In Collaborative Contracting*. Sydney: Intelligentsia Press.

Kerzner, H. (1995). The variables for success. In: *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*, 12th Ed. pp. 299-315. Hoboken, New Jersey: John Wiley & Sons, 2017.

- Kometa, S.T., Olomolaiye, P.O. and Harris, F.C. (1994). Attributes of U.K. construction clients influencing project consultants' performance. *Construction Management & Economics*, 12(5), 433. <https://doi.org/10.1080/01446199400000053>
- Koops, L., Coman, L., Bosch-Rekvelde, M., Hertogh, M. and Bakker, H. (2015) Public perspectives on project success - Influenced by national culture? *Procedia - Social and Behavioral Sciences*, 194, 115-124.
- Kwak, Y.H., Chih, Y. and Ibbs, C.W. (2009). Towards a comprehensive understanding of public-private partnerships for infrastructure development. *California Management Review*, 51(2), 51-78. <https://doi.org/10.2307/41166480>
- Lahdenperä, P. (2012). Making sense of the multi-party contractual arrangements of project partnering, project alliancing and integrated project delivery. *Construction Management and Economics*, 30(1), 57-79. <https://doi.org/10.1080/01446193.2011.648947>
- Leedy, P.D. and Ormrod, J.E. (2005). *Practical Research Planning and Design*. 9th Ed. London, United Kingdom: Pearson Education, Inc.
- Li, B., Akintoye, A., Edwards, P.J. and Hardcastle, C. (2005). Critical success factors for PPP/PFI projects in the U.K. construction industry. *Construction Management and Economics*, 23(5), 459-471. <https://doi.org/10.1080/01446190500041537>
- Ling, F.Y.Y. and Liu, M. (2004). Using neural network to predict performance of design-build projects in Singapore. *Building and Environment*, 39(10), 1263-1274. <https://doi.org/10.1016/j.buildenv.2004.02.008>
- Liu, B., Huo, T., Shen, Q., Yang, Z., Meng, J. and Xue, B. (2015). Which owner characteristics are key factors affecting project delivery system decision making? Empirical analysis based on the rough set theory. *Journal of Management in Engineering*, 31(4), 1-12. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000298](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000298)
- Love, P.E.D., Mistry, D. and Davis, P.R. (2010). Price competitive alliance projects: Identification of success factors for public clients. *Journal of Construction Engineering & Management*, 136(9), 947-956. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0000208](https://doi.org/10.1061/(ASCE)CO.1943-7862.0000208)
- Luu, D.T., Ng, S.T. and Chen, S.E. (2005). Formulating procurement selection criteria through case-based reasoning approach. *Journal of Computing in Civil Engineering*, 19(3), 269-276. [https://doi.org/10.1061/\(ASCE\)0887-3801\(2005\)19:3\(269\)](https://doi.org/10.1061/(ASCE)0887-3801(2005)19:3(269))
- Manley, K. and Chen, L. (2016). The impact of client characteristics on the time and cost performance of collaborative infrastructure projects. *Engineering, Construction and Architectural Management*, 23(4), 511-532. <https://doi.org/10.1108/ECAM-06-2015-0084>
- Maskin, E. and Tirole, J. (2008). Public-private partnerships and government spending limits. *International Journal of Industrial Organization*, 26(2), 412-420. <https://doi.org/10.1016/j.ijindorg.2007.05.004>

- McWalter, T. and Ritchken, P. (2018). Black Economic Empowerment Contracts and Risk Incentives. S.S.R.N. Electronic Journal.
- Mfunwa, M., Taylor, A., and Kreiter, Z (2016). Public-Private Partnerships for social and economic transformation in Southern Africa: Progress and emerging issues. *Southern African Journal of Policy and Development*, 2(2), Article 5.
- Mills, J., Bonner, A. and Francis, K. (2006). Adopting a constructivist approach to grounded theory: Implications for research design. *International Journal of Nursing Practice*, 12(1), 8-13. <https://doi.org/10.1111/j.1440-172X.2006.00543.x>
- Mruck, K. and Mey, G. (2007). Grounded theory and reflexivity. In: The Sage Handbook of Grounded Theory, Bryant, A. and Charmaz, K., Eds., Thousand Oaks, California: SAGE Publications Ltd., 515-538.
- Muhammad, Z. and Johar, F. (2019). Critical success factors of public-private partnership projects: A comparative analysis of the housing sector between Malaysia and Nigeria. *International Journal of Construction Management*, 19(3), 257-269. <https://doi.org/10.1080/15623599.2017.1423163>
- National Treasury (2019). Budget Review: Annexure E - Public-Private Partnerships [Online]. Republic of South Africa: National Treasury Department. Available: <https://bit.ly/2UjqQ9P> [Accessed 26 March, 2020].
- National Treasury PPP Unit (2004). Public-Private Partnership Manual [Online]. Republic of South Africa: National Treasury Department. Available: <https://bit.ly/2WQhQdT> [Accessed 29 March, 2020].
- Newman, R., Jenks, R., and Dawson, S. (1981). Brief formulation and the design of buildings. Oxford, United Kingdom: Department of Architecture Oxford Polytechnic.
- Oxford, T. (2019). PPPs can fund public infrastructure - essential in the African context. In Mail Guardian. 26 July [Online]. Available: <https://bit.ly/2wpvaLD> [Accessed 25 March, 2020].
- Thornberg, R. and Charmaz, K. (2013). Grounded theory and theoretical coding. In: The SAGE Handbook of Qualitative Data Analysis, Flick, U., Ed., Thousand Oaks, California: SAGE Publications Ltd, 153-169.
- Tuuli, M.M. (2018). What has project characteristics got to do with the empowerment of individuals, teams and organisations? *International Journal of Managing Projects in Business*, 11(3), 708-733.
- United Nations (2019). World Population Prospects 2019: Highlights. Available on <https://www.un.org/development/desa/publications/world-population-prospects-2019-highlights.html> (accessed on 14 April 2021)
- Umeokafor, N.I. (2018). An investigation into public and private client attitudes, commitment and impact on construction health and safety in Nigeria. *Engineering, Construction and Architectural Management*, 29(6), 798-815. <https://doi.org/10.1108/ECAM-06-2016-0152>

- Umeokafor, N.I. and Windapo, A.O. (2018) Challenges to and opportunities for establishing a qualitative approach to built environment research in higher education institutions. *Journal of Engineering, Design and Technology* 16(4), 557 -580
- Van Herpen, G.W.E.B. (2002). Public-private partnerships, advantages and disadvantages examined, Association of European Transport, viewed 23 January 2015, from file:///C:/Users/hittmann/Downloads/public-private-partnerships-the-advantages-and-disadvantages-examined%20(1).pdf
- Walker, D.H.T. (1995). The influence of client and project team relationships upon construction time performance. *Journal of Construction Procurement*, 1, 4-20.
- World Bank (2018) Report: Procuring Infrastructure Public-Private Partnerships [Online]. Washington DC: World Bank Institute. Available: <https://bit.ly/2UFEeUC> [Accessed 29 March, 2020].
- Zhang, X. (2005). Critical success factors for public-private partnerships in infrastructure development. *Journal of Construction Engineering and Management*, 131(1), 3- 14. [https://doi.org/10.1061/\(ASCE\)0733-9364\(2005\)131:1\(3\)](https://doi.org/10.1061/(ASCE)0733-9364(2005)131:1(3))